1.0 INTRODUCTION

1.1 Overview

As mandated by LIR 300-00-01, *Safe Work Practices*, "authorization of workers shall be granted when their knowledge, skills, and abilities are sufficient to perform the work safely." Similarly, LIR 402-10-01, *Hazard Analysis and Control for Facility Work*, requires that workers "review the hazards, controls, permits, and training requirements during a walk-down and/or pre-job briefing." This guidance, developed to support the requirements in LIR 300-00-04, *Laboratory Training: Essential Requirements*, provides recommendations on the development of activity-level training for job-specific knowledge and skills. This LIG outlines a graded approach to the development, implementation, and administration of "on-the-job training" (OJT) in nuclear facilities and "in-the-field training" in nonnuclear facilities. OJT is a major component of a formalized qualification program's initial and continuing training program.

1.2 Two Types of Activity-Level Training

On-the-Job Training in Nuclear and Moderate/High Hazard Facilities

OJT should be selected as the training setting when hands-on training is needed for one individual or a small group and one or more of the following factors apply:

- Entry-level skill is not sufficient to perform the task, and proper task performance is crucial to worker, facility, or environmental safety.
- Use of actual or simulated equipment and hands-on practice is necessary to attain or improve skills and proficiency.
- The trainee has to observe and demonstrate proper execution in the work environment of the task prior to performing the task unsupervised.
- Personnel hazards need to be emphasized during training.

A graded approach to OJT takes into account the level of risk and hazard to determine the amount of formality to apply to OJT. The higher the risk, the greater is the need for formality, preparation, and delivery of the OJT.

Level 1/Simple OJT—Guides the development of training or training revisions for operations that have limited risk of severe and/or likely accidents and incidents.

Level 2/Moderate OJT—Guides the development of training or training revisions for operations that have medium risk of severe and/or likely accidents and incidents. Level 2 is more detailed in its requirements than Level 1.

Level 3/Extensive OJT—Guides the development of training or training revisions for operations that have high risk of severe and/or likely accidents and incidents. Level 3 is the most thorough level, resulting in all training phases meeting the most rigorous performance-based training (PBT) requirements.

In-the-Field Training in Nonnuclear Facilities

The intent of hazard identification for in-the-field training is to ensure the understanding of the hazards and the purpose, function, and operation of the hazard controls that have been identified as part of the work authorization (DOE Notice 0064—Higher Hazard Work Requirements). This training should cover, at a minimum, the scope of work, the identification of hazards, the design and use of the hazard control system, and any system configuration or operational issues required for the safe conduct of the activity. In addition, any program for in-the-field training for hazard identification should be developed to complement the current institutional requirements for LANL training and for Safe Work Practices.

1.3 In This Document

2.0 PURPOSE

This guidance outlines best practices used to implement activity-level training, which includes both formalized OJT to meet requirements of most qualification/certification programs and a systematic but less rigorously developed in-the-field training.

3.0 SCOPE AND APPLICABILITY

This guidance is directed to safety- and security-responsible line managers and supervisors who oversee activity-level training—OJT or in-the-field training. In addition, the best practices forwarded can assist activity-level trainers in preparing, presenting, and evaluating activity-level training for Laboratory workers. The guidance has particular emphasis/specificity supporting OJT that leads to qualification and certification programs and an alternative approach for in-the-field training.

4.0 DEFINITIONS AND ACRONYMS

4.1 Definitions

Activity-Level Training—The training on activities, tasks, or an operation/process necessary to understand the work, its hazards, and its controls that is either formalized on-the-job training or in-the-field training.

Certification—The process by which management provides written endorsement of the worker's satisfactory achievement of qualification to perform the specified tasks of the position in the time frame externally mandated.

Employee Development System (EDS)—The Laboratory's official training records database that maintains and archives vital training records. EDS attributes include—but are not limited to—a training program catalog, registration and enrollment functions, class lists, course cost information, historical LANL worker training records, transcripts of completed training for LANL workers, individual training plans, and training reports.

In-the-Field Training—Activity-level training that ensures understanding of the hazards and the purpose, function, and operation of the hazard controls.

LANL Workers—All LANL employees, contractor and subcontractor employees, and visitors, such as, but not limited to, affiliates, guests, collaborators, consultants, and borrowed personnel, who are involved in the operation, maintenance, and technical support of LANL work.

Lead OJT Instructor—An individual who has been qualified in accordance with the Training Staff Qualification (TSQ) program to design and develop training within the OJT setting and as a qualified Lead OJT instructor may conduct OJT instructor/evaluator training. The Lead OJT Trainer may or may not be the trainee's supervisor.

Objective—A learning statement that clearly describes the behaviorally measurable performance that the trainee will be able to demonstrate at the conclusion of training, which may include the conditions, actions, and standards of performance.

Occasional OJT Instructor—A subject matter expert who is not a professional trainer, yet provides training on an aperiodic basis.

On-the-Job Training (OJT)—Activity-level training that is a systematically designed instructional experience in which hands-on training is conducted and evaluated in the work environment.

OJT Evaluation—Activity-level training that has a formally documented process that uses an oral or written assessment or checklist to ensure that workers have the required knowledge, skills, and ability to perform the task.

Qualified OJT Instructor/Evaluator—A worker who has completed the assigned TSQP training plan and is qualified to develop, instruct, and/or evaluate OJT for qualification programs in nuclear and non-nuclear facilities.

OJT Instructor/Evaluator—A LANL worker who delivers and/or evaluates OJT.

Performance-Based Training (*PBT)*—A systematic approach to training, based on tasks and the related skills and knowledge required for competent job performance, that incorporates analysis, design, development, implementation, and evaluation as essential elements of the training program.

Qualified Training Staff—Workers with completed applicable Training Staff Qualification training requirements that allow them to work independently as trainers in a nuclear facility and/or other qualification programs.

Qualification—A formal program defined in terms of the needed education, experience, training, examination, and any special conditions needed to assure that personnel have the requirements necessary for performance of assigned responsibilities in a safe and reliable manner.

Required Reading—Various reading materials for knowledge acquisition that complete a training outcome or mandated requirement and may be an integral part of a training program.

Safety- and Security-Responsible Line Managers—The Laboratory director, associate Laboratory director, division/program/office leader, group/office leader, program/facility manager, or their deputies.

Subject Matter Expert (SME)—An individual qualified or previously qualified and experienced in performing a particular task, or an individual who by education, training, and/or experience is a management-recognized expert on a particular subject, topic, or system.

Systematic Approach to Training (SAT)—A formal and systematic process that incorporates five sequential phases—analysis, design, development, implementation, and evaluation—of the training project.

Task—A well-defined unit of work having an identifiable beginning and end that is a measurable component of the duties and responsibilities of a specific job.

Task Analysis—The systematic process of examining a task to identify knowledge, skills, and abilities required for successful task performance.

Task-to-Training Matrix—A documented process, completed during training analysis, that consists of a list of sequenced tasks, task numbers, and training decisions (associated training or no training for each task).

Training—Job-required or job-related training that is formally planned instruction or delivery of information to improve job performance, develop workers, and/or meet job requirements for initial and continuing training. See Administrative Manual, Section 400, for limitations.

Continuing training—Training that maintains and enhances the proficiency of operating organization personnel who perform functions associated with structures, systems, and components identified in the facility's Documented Safety Analysis (DSA).

Initial training—Training that develops or enhances a trainee's knowledge and skills to initially perform specific position needs.

Retraining—The process of providing remediation or tutoring for individuals deficient in specific training areas.

Training Plan—A course or group of courses (identified through the Training Questionnaire or other analyses) required for workers to perform a specific job function (e.g., forklift operator), based on (1) federal or state regulations, (2) Laboratory requirements, or (3) facility/building-, division-, or group-specific requirements.

Training Staff Qualification Program (TSQP)—A TIO-sponsored, in-house required training and qualification program for training staff who develop training or qualification programs, instruct, or provide training records management for qualification and certification programs.

4.2 Acronyms

DSA—Documented Safety Analysis
EDS—Employee Development System
EIA—Employee Information Application
KSA—Knowledge, skills, and abilities
OJT—On-the-job training
PBT—Performance-based training
SME—Subject matter expert
TIO—Training Integration Office
TSQP—Training Staff Qualification

5.0 PRECAUTIONS

Activity-level training instructors including OJT instructors and evaluators should be effective communicators, highly motivated to transfer learning, and possess effective training skills in addition to management-recognized subject matter expertise.

Instructors should schedule OJT during periods when training will not interfere with actual operations, using appropriate safety considerations, including suspending training immediately if a situation develops that endangers the safety of personnel, equipment, or the facility.

The OJT instructor/evaluator may be required to meet certain qualification requirements according to the TSQ program and other external requirements. Care should be taken when the OJT instructor/evaluator is the trainee's supervisor and when an occasional OJT instructor is used instead of a qualified OJT instructor/ evaluator when developing or delivering OJT for qualification or certification.

6.0 IMPLEMENTATION RESPONSIBILITIES FOR LEAD OJT TRAINER

The lead OJT trainer should ensure that trainers/trainees have an understanding of the OJT process and individual responsibilities and qualify other OJT instructor/evaluators in their organization. The trainer should coordinate review of OJT materials in conjunction with related training, such as classroom instruction and self-study. In addition, the lead OJT trainer reviews and approves all course documentation, gets management approval, and ensures that course and trainee documentation are maintained in EDS and in the course file.

7.0 ACTIVITY-LEVEL TRAINING

The following tables use a conservative approach to determine the training level to use based on initial risk levels before controls are implemented. When initial and residual risk levels differ, residual risk levels may be substituted if the implemented controls function without worker involvement. For some operations, it may be necessary to choose a higher level of formality based on the complexity of the operation, not the risk. Document the level of rigor with justification when a level is chosen based on a criterion other than initial risk. The tables describe the formality, outcomes, justification, examples, task steps, and documentation of training that facilities and groups should take when preparing for, delivering, and documenting activity-level training.

7.1 Table 1 summarizes OJT information as a guide for managers and supervisors, and as introductory information for trainers. See more detailed information in Attachments A through F.

	Level 1 (Low & Minimal Risk and Minimal Task Complexity)	**Level 2 (Medium Risk and/or Medium Task Complexity)**	**Level 3 (High Risk and/or High Task Complexity)**
Formality of Training	Read, observe/walk-through, & self-assess/sign.	Read, observe, walk-through, & evaluation.	Read, practice under supervision, & demonstration/evaluation.
Training Outcome	Communication: e.g., administrative change, improve efficiency.	Coaching: e.g., development or skill improvement.	Mastery: e.g., complex tasks or other tasks with low or medium residual risk, such as laser operations.
Documentation	Enter completion data into EDS. Retain signature roster. Retain self-assessment questions, if used.	Enter completion data into EDS. Retain evaluation. Retain course documentation and signature roster.	Enter completion data into EDS. Retain course and evaluation documentation and signature roster. TSQ: OJT instructor qualified, if necessary.
Justification	Low/some health/safety risk to workers or public. No/little risk of damage to equipment. No significant degradation of security system. Decreased efficiency. Possible employee disciplinary action. No/small potential for regulatory fines/penalties and/or corrective actions.	Health/safety risk to workers or public. Some risk of damage to equipment. May lead to a vulnerability leading to a significant degradation of security system or a component part, or compensatory measures, or systems corrections. Potential for moderate fines/ penalties, stand-down, accident, damage to equipment, or threat to other operational activity.	Greater risk to worker safety with possibility of acute/long-term damage to workers/public. Moderate risk of damage to equipment. Long-term or irreversible damage to environment, damage to equipment/facility, or other operational activities. High probability that a vulnerability exists that leads to a significant degradation in the security system, which will result in compensatory measures or systems corrections. Large regulatory fine, Lab shutdown, operator death/injury, great equipment/facility damage, or threat to operational activity.
Task Steps Summary	Determine worker(s) who need training. Organize materials/ procedure for training. Determine critical safety, procedural, or other questions and develop self-assessment. Have workers read material, walk through/ answer self-assessment, and sign OJT roster. Enter training completion data into the EDS for each worker. Retain OJT roster in the OJT file.	Determine worker(s) who need training and the training tasks. Organize materials/ procedure for training. Determine critical safety, operational, or other questions. Have worker read procedure, answer evaluator's questions, and sign signature roster if worker completes questions to satisfaction of evaluator. Enter training completion data into EDS for each worker. Retain signature roster, questions and answers, and predetermined passing score in the OJT file.	Determine worker(s) who need training and the training tasks. Organize materials/procedure and develop the training, including demonstration. Determine critical safety and operations questions; develop performance checklists based on procedure/task. Prepare for OJT demonstration. Check worker prerequisites, proficiencies, and requirements; conduct OJT by explaining steps, demonstrating, and supervising practice time; ask/answer questions; and retrain, if needed. Conduct evaluation using formalized checklist; evaluate questions and answers, tests, etc., according to established pass/fail criteria; and retrain and reevaluate, as necessary, until mastery is achieved. Sign off when worker is evaluated successfully. Enter training completion in EDS; retain worker/evaluator signed checklist record; and include checklists, Q&As, predetermined passing score, etc. in the OJT file. Assess OJT course periodically; update OJT according to feedback, occurrence reports, and lessons learned. Track current job and procedures changes. Modify training and review with SME and line management.
OJT Example	Orientation walk-through.	Forklift operations.	High-voltage equipment work.

Table 1: GRADED APPROACH TO OJT

7.2 Table 2 summarizes in-the-field training information as a guide for managers and as introductory information for trainers. See more detailed information in Attachments G through J.

Formality of Training	Read, practice under supervision, and demonstrate/evaluate.
Training Outcome	Mastery: e.g., complex task or tasks with high initial risk, such as beryllium operations.
Justification	High initial risk. High probability that a vulnerability exists that leads to a significant degradation in the security system, which will result in compensatory measures or system corrections. Large regulatory fine, Laboratory shutdown, or threat to other major operational activity.
Documentation	Enter a brief description of course, signature roster, and completion data into EDS. Retain the formal training materials, quizzes, performance demonstration checklists, instructor qualification forms, etc. that were used.
In-the-Field Training Examples	Pre-Job Briefing What-If Analysis. Hazard Identification Performance Demonstration. Hazard Identification Case Study and Quiz.
Task Steps Summary	Determine workers who need training. Prepare training based on HCP or work control documentation. Conduct training, such as explaining steps, demonstrating, supervising practice, and answering questions; retrain, if needed. Evaluate worker, as necessary. Document completion of training. Enter training completion data into EDS and retain pertinent documentation. Change training periodically or as necessary using feedback, occurrence reports, and lessons learned.

Table 2: IN-THE-FIELD TRAINING OVERVIEW

8.0 REFERENCES

A Systematic Approach to Training, U.S. Department of Energy Training Program Handbook, DOE-HDBK-1078-94.

Guide to Good Practices for On-The-Job Training, U.S. Department of Energy Handbook, DOE HDBK-1206.

Guidelines for Evaluation of Nuclear Facility Training Programs, DOE STD-1070-94, U.S. Department of Energy standard.

Hazard Analysis and Control for Facility Work, Los Alamos National Laboratory, LIR 402-10-01.8.

Higher Hazard Work Requirements, Notice 0064, Los Alamos National Laboratory.

Laboratory Policy, AM 127, ‘‘Testing,’’ Los Alamos National Laboratory.

Laboratory Policy, AM101, ‘‘Non discrimination, Equal Employment Opportunity, and Affirmative Action,’’ Los Alamos National Laboratory.

Laboratory Training: Essential Requirements, LIR 300-00-04, Los Alamos National Laboratory.

Personnel Selection, Qualification, Training and Staffing Requirements at DOE Reactor and Non-Reactor Nuclear Facilities, DOE Order 5480.20A, U.S. Department of Energy.

Safe Work Practice Implementation Guidance, LIG 300-00-01, Los Alamos National Laboratory.

Safe Work Practices, LIR 300-00-01, Los Alamos National Laboratory.

8.1 The Office of Institutional Coordination (OIC)

The OIC for this document is the Training Integration Office (TIO).

9.0 ATTACHMENTS

The following attachments include templates and tools to help monitor, verify, and record different types of OJT.

Attachment A: Suggested Task Steps for Lead OJT Instructors/Evaluators
Attachment B: OJT Instructional Job Aid/OJT Trainee Evaluation Job Aid
Attachment C: OJT Performance Evaluation Checklist Documentation
Attachment D: Level 1/Simple OJT Development Documentation
Attachment E: Level 2/Moderate OJT Development Documentation
Attachment F: Level 3/Extensive OJT Development Documentation
Attachment G: In-the-Field Training: Pre-Job Briefing—What If Analysis
Attachment H: In-the-Field Training: Hazard Identification Performance Demonstration
Attachment I: In-the-Field Training: Hazard Identification Case Study and Quiz
Attachment J: In-the-Field Training for Safe Work Practices (SWP) Training Attendees

ATTACHMENT A

Suggested Task Steps for Lead OJT Instructors/Evaluators

The following matrix, offered as guidance to lead OJT instructors/evaluators, provides details on a systematic approach to on-the-job training. For each of nine steps identified, from analysis through evaluation, suggested tasks are called out. As job hazards, risks, and complexities increase, the training experience, documentation, evaluation, and other elements become more rigorous.

LEVEL 1/SIMPLE	LEVEL 2/MODERATE	LEVEL 3/EXTENSIVE
1. DETERMINE TASKS AND APPROPRIATE LEVEL OF TRAINING DESIGN		
Identify task to be trained using SME and training judgment. Tools appropriate for Level 1: orientation checklists, drills, safety meetings, demos.	Identify task to be trained using SME and training judgment.	Identify task to be trained using SME and training judgment.
	Consider policy documentation and requirement of DOE Order, regulation, etc., and if qualification or certification is required.	Consider policy documentation and requirement of DOE Order, regulation, etc., and if qualification or certification is required.
Consider the likelihood of performing task incorrectly.	Consider the likelihood of performing task incorrectly.	Consider the likelihood of performing task incorrectly.
2. IDENTIFY TRAINING STAFF AND REQUIREMENTS		
Designate individuals responsible for OJT tasks.	Designate individuals responsible for OJT tasks.	Designate individuals responsible for OJT tasks.
If OJT is part of qualification program, assign qualified training staff or work under qualified staff.	If OJT is part of qualification program, assign qualified training staff or work under qualified staff.	If OJT is part of qualification or certification program, assign qualified training staff or work under qualified staff.
3. ANALYZE THE TASK		
Determine reason for conducting training and identify reference materials to be used.	Perform task analysis to derive job steps.	Perform task analysis to derive job steps and complete task-to-training matrix.
Determine workers who need training.	Determine workers who need training.	Determine workers who need training.
4. DESIGN OJT COURSE		
• Determine elements to be included in the training. • Flag critical safety and procedural elements.	• Write performance objective(s) to include action statement, conditions, and performance. • Flag critical safety and procedural elements.	• Write performance objective(s) to include action statement, conditions, and performance. • Flag critical safety and procedural elements.
	Develop specific criteria for training and evaluation of job steps. Include the following: – Specific oral questions with correct responses for each step. – Job-specific pass/fail criteria reflecting critical or important work behavior and scoring instructions. – Handling of failures, remediation, and number of evaluations allowed. (See AM 127.)	Develop specific criteria for training and evaluation of job steps. Include the following: – Specific oral questions with correct responses for each step. – Job-specific pass/fail criteria reflecting critical or important work behavior and scoring instructions. – Handling of failures, remediation, and number of evaluations allowed. (See AM 127.)
	List prerequisite(s) workers need before training or test-out.	List prerequisite(s) workers need before training or test-out.
	List specific facility or equipment requirements.	• List specific facility or equipment requirements. • If simulator is used, document the reason.

LEVEL 1/SIMPLE	LEVEL 2/MODERATE	LEVEL 3/EXTENSIVE
5. DEVELOP TRAINING MATERIALS		
Gather or identify procedures, agenda items for safety briefings, or other materials to complete the activity.	Develop training materials based on written operating procedures, job aids, and other methods that clearly define the task being performed.	Develop a lesson plan or a comprehensive job step list including materials based on written operating procedures, job aids, and other methods that clearly define the task being performed.
Have SME review course materials and make corrections.	Have SME validate course materials to ensure that training reflects the task requirements, make needed changes, and resolve any errors, content problems, and unclear items or statements.	Have SME validate course materials or conduct independent walk-through to ensure that training reflects the task requirements; make needed changes. Resolve any errors, content problems, and unclear items or statements.
If course material is to be classified, submit it to the derivative classifier.	• Submit OJT course materials to line management for approval. • If course material is to be classified, submit it to the derivative classifier.	• Submit OJT course materials to line management for approval. • If course material is to be classified, submit it to the derivative classifier.
6. PREPARE FOR OJT		
Review applicable references, relevant procedures, and safety precautions and materials, as appropriate.	Review applicable references, relevant procedures, and safety precautions and materials, as appropriate.	Review applicable references, relevant procedures, and safety precautions and materials, as appropriate.
	Review OJT training materials and clarify any content questions with the SME and developer.	Review OJT training materials and clarify any content questions with the SME and developer.
	Use Attachment B, OJT Instructional Job Aid, Preparation section.	Use Attachment B, OJT Instructional Job Aid, Preparation section.
7. CONDUCT OJT		
Hold meeting, deliver briefing, or walk-through.	Follow guidelines in Attachment B, OJT Instructional/Evaluation Job Aid.	Follow guidelines in Attachment B, OJT Instructional/Evaluation Job Aid.
	If trainee and supervisor agree that trainee is proficient without training, begin evaluation.	If trainee and supervisor agree that trainee is proficient without training, begin evaluation.
8. EVALUATE TRAINEE		
	Read Evaluation section of OJT Trainee Evaluation Job Aid, Attachment B.	• Read Evaluation section of OJT Trainee Evaluation Job Aid, Attachment B. • When OJT leads to qualification or certification, use an evaluator other than the instructor or begin evaluation 24 hours later.
	• Use OJT Performance Evaluation Checklist Documentation, Attachment C. • Ask oral or written questions and conduct evaluation.	• Use OJT Performance Evaluation Checklist Documentation, Attachment C. • Ask oral or written questions and conduct evaluation.
	• If the trainee fails to meet OJT evaluation guidelines, retrain and reevaluate on the spot, according to guidelines established by the organization. • Reevaluate, as necessary, on the failed items only.	If the trainee fails to meet OJT evaluation guidelines, follow these steps: 1. terminate the evaluation session; 2. forward completed evaluation materials to that OJT instructor, indicating that follow-up action is required; 3. arrange for scheduling of retraining, as required; and 4. reevaluate, as necessary, on the failed items or entire task.

LEVEL 1/SIMPLE	LEVEL 2/MODERATE	LEVEL 3/EXTENSIVE
	• Reevaluate periodically every 2–3 years, as appropriate. • Requalify after 12-month absence from duties.	• Reevaluate periodically every 2–3 years, as appropriate. • Requalify after 12-month absence from duties.
Enter training completion data into EDS.	Enter training completion data into EDS.	Enter training completion data into EDS.
9. EVALUATE OJT COURSE		
Assess OJT course periodically.	• Assess OJT course periodically. • Ensure that the training reflects current job requirements and procedures. • Use instructor observations, trainee feedback, and occurrence reports to make course changes.	• Assess OJT course periodically. • Ensure that the training reflects current job requirements and procedures. • Use information such as instructor observations, supervisor and trainee feedback, and occurrence reports to evaluate the course.
	Make corrections if • the performance objective or safety envelope changes, or • there are significant changes in task steps or knowledge questions resulting from changes in procedures, SOPs, or other work processes.	Make corrections if • the performance objective or safety envelope changes, or • there are significant changes in task steps or knowledge questions resulting from changes in procedures, SOPs, or other work processes.
Document revisions.	Document revisions.	Document revisions.
Put OJT documentation and associated materials in course file.	Put OJT documentation and associated materials in course file.	Put OJT documentation and associated materials in course file.

Guidance Note: For the start-up of a new program, an individual could seek a waiver from OJT, based on experience, with line management's approval.

ATTACHMENT B

OJT INSTRUCTIONAL JOB AID

PREPARATION

REVIEW	knowledge and tasks requiring training
	materials, references, and all safety precautions
VERIFY	no more than five trainees to an instructor
	all prerequisites completed
	current status & availability of reference documents and procedures
	availability of training materials
	training area accessibility and readiness
	safety of work area
	working condition of equipment and tools
SCHEDULE	only when training will not interfere with actual operations

DEMONSTRATION

REVIEW	training materials, safety gear, and safe practices with trainee
PROVIDE	trainee with required reference materials
	trainee with lessons learned from specific job-related experiences
EXPLAIN	critical steps and consequences of improper performance
DEMONSTRATE	the skill correctly and safely, exactly how the trainee will perform
ASK	frequent questions to evaluate trainee's comprehension

PRACTICE UNDER SUPERVISION

ASK	trainee to practice entire skill until mastery is achieved
OBSERVE	trainee's practice and performance to assure safety & correctness
STOP	practice and performance if errors or hazards develop
RETRAIN	areas of errors, hazards, or other difficulty

IMMEDIATELY AFTER TRAINING

SIGN	OJT Performance Documentation by trainee, instructor
FORWARD	OJT Performance Documentation to evaluator

OJT TRAINEE EVALUATION JOB AID

PREPARATION

REVIEW	knowledge and tasks to be evaluated
	materials, references, and all safety precautions
	OJT Performance Documentation form
VERIFY	trainee has completed training or is ready for evaluation
	availability of evaluation materials, equipment, and tools
	training/evaluation area safety and accessibility
SCHEDULE	only when evaluation will not interfere with actual operations

EVALUATION

REVIEW	the evaluation process and OJT Performance Documentation with trainee
ENSURE	trainee performs actual task or justified simulation of task
	trainee is not coached during evaluation
	evaluation is stopped if hazards develop

KNOWLEDGE REQUIREMENTS

ASK	only oral questions that are predetermined and written
COMPARE	responses with predetermined answers; record each response if Level 3

PERFORMANCE REQUIREMENTS

ENSURE	only predetermined performance criteria are used
	steps are performed sequentially, if required
DOCUMENT	each step is performed satisfactorily
	incorrect performance or answers if Level 3

IMMEDIATELY AFTER EVALUATION

INFORM	trainee of the score immediately upon completion of the evaluation and provide a copy if trainee requests it
SIGN/ FORWARD	completed OJT Performance Documentation

ATTACHMENT C
OJT PERFORMANCE EVALUATION CHECKLIST DOCUMENTATION

Course Title _____ EDS Number _____

Reference Document _____

Performance Objective _____
(Include action, condition under which action is taken, and guideline of performance)

☐ Prerequisites met
☐ Test out (performance evaluation)
☐ Oral and/or written exam attached, as applicable

SCHEDULE OJT ONLY DURING PERIODS WHEN TRAINING WILL NOT INTERFERE WITH ACTUAL OPERATIONS.

✓	**Job Steps** (Identify critical steps by ''*'') (Include knowledge-based questions, if appropriate)	**Comments**

Attach additional sheets, as necessary. Page ___of___

☐ Satisfactory (The trainee has performed the above tasks.)

Trainee _____ _____ _____
Signature Z Number Date

Instructor _____ _____ _____
Signature Z Number Date

Evaluator _____ _____ _____
Signature Z Number Date

If performance is unsatisfactory, date of retraining and/or reevaluation: _____

ATTACHMENT D
LEVEL 1/SIMPLE OJT DEVELOPMENT DOCUMENTATION

Course Title _____ EDS Number _____

TRAINING BASED ON WHAT TYPE OF DOCUMENT

- ☐ Safe Operating Procedure (SOP)
- ☐ Administrative Procedure (AP)
- ☐ Quality Assurance (QA) document
- ☐ Appendix
- ☐ Data Record/Form (DR) (DF)
- ☐ Hazard Control Plan

STATUS

- ☐ New
- ☐ Major revision (>25%)
- ☐ Reviewed, no change

IF REQUIRED READING, REQUIRED BY

- ☐ Occurrence reports
- ☐ New operating procedures
- ☐ Supervisor determination
- ☐ Other (specify)_____
- ☐ New technology

TYPE OF TRAINING REQUIRED

- ☐ Informal Qualification (I)
- ☐ Formal Qualification (F)
- ☐ Continuing Qualification
- ☐ Employee Development Plan
- ☐ Walk-Through
- ☐ Lesson Plan
- ☐ Briefing/Meeting
- ☐_____

INSTRUCTION

- ☐ Notify of changes
- ☐ Retrain on changes
- ☐ Retrain on entire revision

PERFORMANCE REQUIREMENTS

- ☐ Trainee acknowledgement of reading training content by providing signature on individual document (as below). Or attach a signed signature roster for a small group.
- ☐ Checklist for orientation or drill (attach documentation, handouts, or outline to course file.)
- ☐ Other (specify)

Various reading materials (such as SOPs) are an integral part of training programs. LANL workers may have a list of required reading material for the job. After the material is read, the worker should initial or sign the list retained in his/her individual training file. Enter training in EDS.

Document/Task #	Document/Task Title	Date Reviewed	Signature

SME Approval _____ _____ _____
Signature Z Number Date

OJT Instructor _____ _____ _____
Signature Z Number Date

ATTACHMENT E
LEVEL 2/MODERATE OJT DEVELOPMENT DOCUMENTATION

Course Title _____ EDS Number _____

Training for _____

COURSE REQUIRED BY

☐ Training plan ☐ New technology ☐ Occurrence reports
☐ New operating procedures ☐ Supervisor determination (perhaps performance driven)

TRAINING BASED ON WHAT TYPE OF DOCUMENT

☐ Safe Operating Procedure (SOP) ☐ Appendix
☐ Administrative Procedure (AP) ☐ Data Record/Form (DR) (DF)
☐ Quality Assurance (QA) document

STATUS

☐ New
☐ Major revision (>25%)
☐ Reviewed, no change

TYPE OF TRAINING REQUIRED

☐ Informal Qualification (I)
☐ Formal Qualification (F)
☐ Continuing Qualification
☐ Employee Development Plan

TRAINING METHOD

☐ Checkout
☐ Lesson Plan
☐ Procedure
☐ Other

INSTRUCTION

☐ Notify of changes
☐ Retrain on changes
☐ Retrain on entire revision
☐ Training not required

COURSE REQUIREMENTS

Performance Objective(s): _____

_____

Trainee Prerequisites: _____

_____

Facility and Equipment Requirements: _____

_____

Safety and Procedural Requirements: _____

_____

ATTACH COMPLETED OJT PERFORMANCE DOCUMENTATION (See Attachment C)

RECORD OF COURSE REVISIONS

Author's name	Z number	Date Revised
Author's name	Z number	Date Revised

APPROVALS:

Lead OJT Trainer's Review	Signature	Z Number	Date
Line Manager's Approval	Signature	Z Number	Date

ATTACHMENT F
LEVEL 3/EXTENSIVE OJT DEVELOPMENT DOCUMENTATION

Course Title _____ EDS Number _____

Training for _____ OJT Developer _____

COURSE REQUIRED BY

☐ Training plan
☐ Occurrence reports
☐ Supervisor determination (perhaps performance driven)
☐ New technology
☐ New operating procedures

TRAINING BASED ON WHAT TYPE OF DOCUMENT

☐ Safe Operating Procedure (SOP)
☐ Administrative Procedure (AP)
☐ Quality Assurance (QA) document
☐ Appendix
☐ Data Record/Form (DR) (DF)

STATUS

☐ New
☐ Major revision (>25%)
☐ Reviewed, no change

TYPE OF TRAINING REQUIRED

☐ Informal Qualification (I)
☐ Formal Qualification (F)
☐ Continuing Qualification
☐ Employee Development Plan

TRAINING METHOD

☐ Checkout
☐ Lesson Plan
☐ Procedure
☐ Other

INSTRUCTION

☐ Notify of changes
☐ Retrain on changes
☐ Retrain on entire revision
☐ Training not required

COURSE DEVELOPMENT INFORMATION

Task-to-Training Matrix: ☐ Yes ☐ No, not necessary

Performance Objective(s) and Measurable Criteria: _____

Pass/Fail Criteria: _____

Selected Remediation Activities: _____

Trainee Prerequisites: _____

Facility and Equipment Requirements: _____

Safety and Procedural Requirements: _____

TSQ Training Staff Qualification Required: ☐ Yes ☐ No, not necessary

☐ Lesson Plan Attached

☐ OJT Performance Documentation (See sample, Attachment C)

APPROVALS:

Lead OJT Trainer Review _____ _____ _____
Signature Z Number Date

Line Manager Approval _____ _____ _____
Signature Z Number Date

Record of Course Revision:

Rev. 1 _____ _____ _____
Author's name Z Number Date

Rev. 2 _____ _____ _____
Author's name Z Number Date

ATTACHMENT G

In-the-Field Training: Pre-Job Briefing—What If Analysis

A ‘‘what-if’’ analysis of the work to be performed before the job begins is an excellent way for workers to demonstrate understanding of hazard identification principles. In the ‘‘what-if’’ analysis, the individuals involved discuss the upcoming operation. Then they raise questions about issues that could arise before, during, and after the job. The team then discusses what could happen and the controls in place to prevent the issue from arising or to mitigate the problems associated with the issue.

For instance, members of the team might ask questions such as

- What if I forget to close valve A?
- What if my glove tears?
- What if I do these steps out of order?

If the team has difficulty in determining questions to ask, some suggested questions to consider include

- What if a step is skipped or missed in the procedure?
- What if a shortcut is taken? What shortcuts are likely?
- What if work is performed out of order?
- What if an action is performed incorrectly? What actions are difficult to perform correctly or are confusing?
- What if there is a utility failure?
- What if there is an emergency? Are there special shutdown procedures I need to know?

Questions do not have to be limited to what-if questions. Other types of questions to address include

- What is the worst accident that could occur in the operation? What controls do I have to prevent/mitigate this?
- What are the most likely things that might go wrong in this operation? What controls do I have for those?
- What are some conditions or indicators that would require me to stop work immediately?
- What kinds of troubleshooting can I perform on this system?
- If I am expected to troubleshoot this system, what indicators do I have that would tell me that I need to stop troubleshooting and have the conditions reevaluated?
- What maintenance activities can I perform on this system? What maintenance can’t I do?
- Are there issues with other activities that I need to be aware of, and what should I be looking for?

After asking as many questions as the team can think of for the operation, the team addresses the consequences of each of these questions. For the question ‘‘What if I forget to close valve A?’’ workers may discuss issues such as the unwanted release of a toxic, flammable material or the introduction of contaminants into the system. The team would then consider the current controls and decide if they are adequate. For instance, the team might determine that the appropriate PPE has been required in the case of a spill and that appropriate spill containment is present.

The intent of this process is to ensure that workers understand the hazards, hazardous circumstances, and accidents that could occur in the work they are performing, by determining this information for themselves instead of just being told the information. These issues should have been addressed in the hazard evaluation that was performed prior to authorization of the work. But by reevaluating the process, workers can practice performing hazard identification skills themselves. In addition, the hazard evaluation performed for the development of the HCP can be used as a checklist to ensure that all the issues are being addressed.

Although this process is used to help workers practice hazard identification techniques on a system that has been previously evaluated, as workers develop their hazard identification skills, they may identify new hazards, hazardous circumstances, or accidents that were not previously identified. If this happens, the workers should not perform the work until appropriate controls have been determined, the change control process has been completed, the work has been approved, and the new information has been communicated to those performing the work.

ATTACHMENT H

In-the-Field Training: Hazard Identification Performance Demonstration

In some circumstances, the consequences of workers not properly identifying hazards may be so great that it is necessary for workers to demonstrate their ability to identify hazards. For example, after a worker reviews the hazard control plan or other document that describes the types of hazards that could be encountered in the workplace, the worker would be asked to simulate performing the operation. During the simulation, a situation is encountered in which the worker has to determine that a hazard is present and make appropriate decisions about whether to continue the work as before, add additional controls before continuing, or stop work. If the worker makes an incorrect decision, the evaluator would review the results of the decision and provide direction about the proper choice.

As a tool, simulation is effective for teaching hazard identification techniques because prior experience in identifying a hazard is frequently one of the factors that make it more likely that a person will identify a hazard and respond appropriately in the future. Therefore, multiple simulations with various levels of consequences can help increase a worker's awareness of hazards, hazardous circumstances, and accidents, and can help the worker practice appropriate responses.

For example, if a worker is required to perform a task that could result in significant radiation exposure as well as release of significant quantities of airborne radioactive material, and the operation is performed incorrectly, then a series of simulations could include

- simulate task when CAM alarms,
- simulate task with shielding displaced,
- simulate task with interruption by colleague, and
- simulate task to include the discovery that the required equipment is not available.

Guidance Note: When determining issues to simulate, the in-the-field training course developer and the subject matter expert should consider not only the steps in the procedure, but also the issues identified in the hazard evaluation, to determine the most important issues to evaluate in the performance demonstration.

ATTACHMENT I

In-the-Field Training: Hazard Identification Case Study and Quiz

A big concern associated with any training program that teaches hazard identification techniques is the difficulty of recognizing some hazards when they are first encountered. Therefore, another hazard identification method could involve the use of a hazard recognition tool to aid workers in determining what hazards could be present, followed by a quiz on identified hazards to ensure that the worker systematically thinks about the hazardous circumstances, accidents, and controls associated with a given example. This approach may be particularly useful when workers are authorized to perform work that was defined and evaluated with numerous experimental options with varying hazards and controls.

For example, for chemical synthesis operations that have been authorized to allow a wide variability in experimental conditions, appropriate hazard identification training might involve a case study in which the worker is expected to design an experiment using a particular synthesis technique and a given set of materials. The worker would then be expected to review tools such as MSDSs and other reference materials to determine which hazards are present and what controls are required. The worker might then be quizzed to ensure understanding of appropriate responses to spills, PPE failure, etc.

Guidance Note: Other examples of tools can be found in LIG 300-00-01, Safe Work Practice Implementation Guidance, Section 5.0.

ATTACHMENT J

In-the-Field Training for Safe Work Practices (SWP) Training Attendees

Hazard identification and evaluation is currently required for the development of hazard control plans in the SWP LIRs. All workers who develop or modify controls in higher-hazard facilities and all supervisors or managers who authorize such work are expected to receive hazard identification and evaluation training as part of SWP. This training discusses HCP preparation as well as the need to define the work sufficiently to allow adequate hazard identification.

Consequently, for workers who attend SWP training, the in-the-field training should consist of participation in a hazard evaluation using a hazard evaluation method such as What If Analysis. Firsthand observation of a hazard evaluation technique helps demonstrate the use of the technique to systematically evaluate system configuration and operations in order to identify hazards. By then participating in the process, the worker demonstrates an understanding of the principles. For workers participating in operations that have already been authorized, those workers may demonstrate their understanding of the principles through a method such as the ones described above.